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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,077	10/04/2005	Ki Mun Kim	123051-05024312	8311
43569 7590 07/13/2007 MAYER, BROWN, ROWE & MAW LLP 1909 K STREET, N.W. WASHINGTON, DC 20006			EXAMINER FARAGALLA, MICHAEL A	
			ART UNIT 2617	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/526,077	Applicant(s) KIM ET AL.	
	Examiner Michael Faragalla	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 April 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This action is made in response to the amendment filed on 04/20/2007. This action is made **FINAL**.

#### *Response to arguments*

2. Applicant's arguments have been fully considered, but they are not persuasive. Therefore, this action is made final.

The argued features, i.e., a method of providing an arbitrary sound to replace a conventional tone in a communication network, comprising: a first step, conducted by an HLR (Home Location Register), of furnishing an exchanger when a terminal is registered through the exchanger, with first information on whether an ordinary tone is to be replaced or not and second information informing a route to a sound providing means; a second step, conducted by the exchanger, of requesting a first trunk connection to the sound providing means, if the terminal is called by a latter caller under already-connected condition to a former caller, based on the first and the second information while providing the sound providing means with third information on call state; a third step, conducted by the sound providing means, of determining a tone-replacing sound based on the received third information for the terminal, and providing the

determined tone-replacing sound as a ringback tone to the latter caller through the exchanger; a fourth step, conducted by the exchanger, of requesting release of the first trunk connection to the sound providing means, if the terminal accepts the call from the latter caller, and requesting a second trunk connection to the sound providing means for the connected former caller while providing the sound providing means with fourth information on call-switched; and a fifth step, conducted by the sound providing means, of determining a tone-replacing sound based on the received fourth information for the terminal, and providing the determined tone-replacing sound as a call-waiting tone to the former caller through the exchanger which the second trunk connection is made to read upon Park in view of Hong Park as follows.

Park discloses that the HLR carries out a Routing request that is directed to the MSC 400. Furthermore, in the sequence of steps, MSC 200 sends an ISUP call setup to the MSC 400 that's contains information on whether the sound is a ringback tone or an alternative sound, and the place where the alternative sound is read. Therefore, Park discloses the limitation of "a first step, conducted by an HLR (Home Location Register), of furnishing an exchanger when a terminal is registered through the exchanger, with first information on whether an ordinary tone is to be replaced or not and second information informing a route to a sound providing means". Furthermore, Park et al discloses that an analyzed information defined in the WIN is sent from the MSC 200 which includes the search for the

corresponding IP through a certain path. Therefore, Park teaches the limitation of "a second step, conducted by the exchanger, of requesting a trunk connection to the sound providing means, if the terminal is called by a caller based on the first and the second information". Park discloses storage of alternative sounds in the IP, which are requested in order to present to the caller. Therefore, Park discloses the limitation of "a third step, conducted by the sound providing means, of determining a tone "replacing sound based on the received third information for the terminal, and providing the determined tone-replacing sound as a ringback tone to the caller through the exchanger which the trunk connection is made to". Park discloses sending analyzed information to the SCP from the MSC 200, which includes information for the corresponding IP through a certain path. Therefore, Park discloses the limitation of "a fourth step, conducted by the exchanger, of requesting release of the first trunk connection to the sound providing means, if the terminal accepts the call from a caller". Park discloses Park discloses sending analyzed information to the SCP from the MSC 200, which includes information for the corresponding IP through a certain path. Therefore, Park discloses the limitation of "a fifth step, conducted by the sound providing means, of determining a tone-replacing sound based on the received fourth information for the terminal, and providing the determined tone-replacing sound to the former caller through the exchanger which the second trunk connection is made to". However, Park does not specifically show that the second step, conducted by the exchanger, of requesting a first trunk connection

to the sound providing means, if the terminal is called by a latter caller under already-connected condition to a former caller, based on the first and the second information while providing the sound providing means with third information on call state, providing the determined tone replacing sound as a ringback toe to the latter caller through the exchanger, the fourth step, conducted by the exchanger, of requesting release of the first trunk connection to the sound providing means, if the terminal accepts the call from the later caller, and requesting a second trunk connection to the sound providing means for the connected former caller while providing the sound providing means with fourth information on call switched, and Providing the determined tone-replacing sound as a call-waiting tone to the former caller through the exchanger, which the second trunk connection is made to. Therefore, the examiner has used Hong Park to show obviousness with respect to prior art. Hong Park discloses that call states of receiving mobile are recorded and then displayed for the calling party, and further Hong Park disclose that messages or music are recorded and then displayed to calling party to show he state of the receiving phone, which includes putting the second caller on hold, which means that there are two connections (trunks) that are released to the former and the later caller. Therefore, Hong Park discloses the limitations of "the second step, conducted by the exchanger, of requesting a first trunk connection to the sound providing means, if the terminal is called by a latter caller under already-connected condition to a former caller, based on the first and the second information while providing the sound providing means with

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third information on call state", "providing the determined tone replacing sound as a ringback tone to the latter caller through the exchanger", "the fourth step, conducted by the exchanger, of requesting release of the first trunk connection to the sound providing means, if the terminal accepts the call from the later caller, and requesting a second trunk connection to the sound providing means for the connected former caller while providing the sound providing means with fourth information on call switched", and "Providing the determined tone-replacing sound as a call-waiting tone to the former caller through the exchanger, which the second trunk connection is made to".

References used are in related art, and therefore can be used and combined in order to show obviousness with respect to prior art.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims **1-9,12-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Park (Patent number: 2000-0000244)** in view of **Hong Park (publication number: 1999-0055454)**.

Consider **Claim 1**, Park clearly shows and discloses a method of providing an arbitrary sound (hereinafter read as alternative sound) to replace a conventional tone (hereinafter read as ringback tone) in a communication network comprising:

(a) A first step conducted by an HLR (Home Location Register), of furnishing an exchanger (hereinafter read as MSC), when a terminal is registered through the exchanger, with first information on whether an ordinary tone is to be replaced or not and second information informing a route to a sound providing means (hereinafter read as IP) (page 4, lines 8-33; figure 2); (according to Park, the HLR 300 sends a routing request in order to connect the receiving mobile to the receiving MSC. Further, the SCP receives an analyzed information from the MSC 200. The analyzed information includes the MIN. Finally, the SCP performs a Seizeres request to the IP that fetches the alternative sound information).

(b) A second step, conducted by the exchanger, of requesting a trunk connection to the sound providing means, if the terminal is called by a caller based on the first and the second information (page 4, lines 22-33).

(c) A third step, conducted by the sound providing means, of determining a tone – replacing sound based on the received third information for the terminal, and providing the determined tone-replacing sound as a ringback tone to the caller through the



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exchanger which the trunk connection is made to (page 4, lines 28-35; page 5, lines 1-18; figure 2).

However, Park does not specifically show that the second step conducted by the exchanger, of requesting a trunk connection to the sound providing means, if the terminal is called by a caller, based on the first and the second information includes furnishing the sound providing means with a third information on call state.

In related art, Hong Park shows that the second step conducted by the exchanger, of requesting a trunk connection to the sound providing means, if the terminal is called by a caller, based on the first and the second information includes furnishing the sound providing means with a third information on call state (page 4, lines 17-24; page 5, lines 1-12).

Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to incorporate the teaching of Hong Park into the teaching of Park in order to provide a method for notifying various call states such that a subscriber may recognize a call state easily in a switching system (Hong Park, page 4, lines 17-19).

Consider **Claim 2**, Park clearly shows and discloses a method of providing an arbitrary sound (hereinafter read as alternative sound) to replace a conventional tone (hereinafter read as ringback tone) in a communication network comprising:

(a) A first step conducted by an HLR (Home Location Register), of furnishing an exchanger (hereinafter read as MSC), when a terminal is registered through the exchanger, with first information on whether an ordinary tone is to be replaced or not

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and second information informing a route to a sound providing means (hereinafter read as IP) (page 4, lines 8-33; figure 2); (according to Park, the HLR 300 sends a routing request in order to connect the receiving mobile to the receiving MSC. Further, the SCP receives an analyzed information from the MSC 200. The analyzed information includes the MIN. Finally, the SCP performs a Seizeres request to the IP that fetches the alternative sound information).

(b) A second step, conducted by the exchanger, of requesting a trunk connection to the sound providing means, if the terminal is called by a caller based on the first and the second information (page 4, lines 22-33).

(c) A third step, conducted by the sound providing means, of determining a tone – replacing sound based on the received third information for the terminal, and providing the determined tone-replacing sound as a ringback tone to the caller through the exchanger which the trunk connection is made to (page 4, lines 28-35; page 5, lines 1-18; figure 2).

(d) A fourth step, conducted by the exchanger, of requesting release of the first trunk connection to the sound providing means, if the terminal accepts the call from a caller (page 4, lines 22-33).

(e) A fifth step, conducted by the sound providing means, of determining a tone-replacing sound based on the received fourth information for the terminal, and providing the determined tone-replacing sound to the former caller through the exchanger which the second trunk connection is made to (page 4, lines 28-35; page 5, lines 1-18; figure 2).

*However, Park does not specifically show that:*

- (a) The second step, conducted by the exchanger, of requesting a first trunk connection to the sound providing means, if the terminal is called by a latter caller under already-connected condition to a former caller, based on the first and the second information while providing the sound providing means with third information on call state.
- (b) Providing the determined tone replacing sound as a ringback tone to the latter caller through the exchanger.
- (c) The fourth step, conducted by the exchanger, of requesting release of the first trunk connection to the sound providing means, if the terminal accepts the call from the later caller, and requesting a second trunk connection to the sound providing means for the connected former caller while providing the sound providing means with fourth information on call switched.
- (d) Providing the determined tone-replacing sound as a call-waiting tone to the former caller through the exchanger, which the second trunk connection is made to.

*In related art, Hong Park shows that:*

- (a) The second step, conducted by the exchanger, of requesting a first trunk connection to the sound providing means, if the terminal is called by a latter caller under already-connected condition to a former caller, based on the first and the second information while providing the sound providing means with third information on call state (page 4, lines 20-24; page 5, lines 1-8; table 1); (call states of receiving mobile are recorded and then displayed for the calling party according to table 1).

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(b) Providing the determined tone replacing sound as a ringback tone to the latter caller through the exchanger (table 1; page 4, lines 20-24; page 5, lines 1-8).

(c) The fourth step, conducted by the exchanger, of requesting release of the first trunk connection to the sound providing means, if the terminal accepts the call from the later caller, and requesting a second trunk connection to the sound providing means for the connected former caller while providing the sound providing means with fourth information on call switched (table 1; page 4, lines 20-24; page 5, lines 1-8).

(d) Providing the determined tone-replacing sound as a call-waiting tone to the former caller through the exchanger, which the second trunk connection is made to (table 1); (according to Hong Park, messages or music are recorded and then displayed to a calling party to show the state of the receiving phone, which includes putting the second caller on hold, which means that there are to connections (trunks) that are released to the former and the latter callers).

Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to incorporate the teaching of Hong Park into the teaching of Park in order to provide a method for notifying various call states such that a subscriber may recognize a call state easily in a switching system (Hong Park, page 4, lines 17-19).

Consider **Claims 3 and 12**, Park as modified by Hong Park shows the method of claim 1 as well as the method of claim 2, but fails to specifically show that the third information is to indicate that the terminal is busy.

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In related art, Hong Park shows that the third information is to indicate that the terminal is busy (table 1).

Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to incorporate the teaching of Hong Park into the teaching of Park in order to notify the calling party of the call state (Hong Park page 4, lines 20-23).

Consider **Claim 4**, Park as modified by Hong Park shows the method of claim 2, but fails to specifically show that the fourth information is to indicate that either of the callers is suspended to wait for call reconnection.

However, in related art, Hong Park shows that the fourth information is to indicate that either of the callers is suspended to wait for call **RECONNECTION** (table 1; third row indicates that there is a message for the caller telling him/her to call again because there is no answer).

Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to incorporate the teaching of Hong Park into the teaching of Park in order to notify various call states associated with subscriber phone usage (Hong Park; page 9, lines 11-14).

Consider **Claims 5 and 13**, Park as modified by Hong Park shows the method of claim 1 as well as the method of claim 2, but fails to specifically show that the first information on whether an ordinary tone is to be replaced or not is set in the HLR based on specific key information received from the terminal.

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However, , in related art, Hong Park shows that the first information on whether an ordinary tone is to be replaced or not is set in the HLR based on specific key information received from the terminal (page 14, lines 2-15).

Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to incorporate the teaching of Hong Park into the teaching of Park in order to notify various call states by voice messages instead of tones (Hong Park; abstract, lines 8-15).

Consider **Claims 6 and 14**, Park as modified by Hong Park shows the method of claim 1 as well as the method of claim 2, wherein the first and the second information are included in a response message to a location registration request message, the response message being sent from the HLR to the exchanger (page 4, lines 8-21; figure 2).

Consider **Claim 7**, Park as modified by Hong Park shows the method of claim 6, wherein the first information is written in a reserve field allocated in value-added service parameters of subscriber's profile (page 4, lines 22-30).

Consider **Claims 8 and 15**, Park as modified by Hong Park shows the method of claim 1 as well as the method of claim 2, wherein the sound providing means determines the tone-replacing sound based on who the caller is, which group the caller belongs to among several groups classified by the called (page 5, lines 12-18).

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However, Park does not show that the sound providing means determines the tone-replacing sound based on calling time, and/or calling state.

In related art, Hong Park shows show that the sound providing means determines the tone-replacing sound based on calling time, and/or calling state (tables 1 and 2).

Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to incorporate the teaching of Hong Park into the teaching of Park in order to notify the calling party of the call state (Hong Park page 4, lines 20-23).

Consider **Claims 9 and 16**, Park as modified by Hong Park shows the method of claim 1 as well as the method of claim 2, wherein a message to request a trunk connection to the sound providing means includes called- and caller- identification (page 4, lines 22-27; page 5, lines 12-18).

5. **Claims 10,11 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Park (Patent number: 2000-0000244)** in view of **Hong Park (publication number: 1999-0055454)** and further in view of **Chavez, Jr. et al (Patent number: 6,603,844)**.

Consider **Claims 10 and 17**, Park as modified by Hong Park shows the method of claim 1 as well as the method of claim 2, but fail to specifically show that the sound providing

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means changes a current tone-replacing sound specified for the called with another one through communication with a web server operating on internet protocol.

However, in related art, Chavez, Jr. et al show that the sound providing means changes a current tone-replacing sound specified for the called with another one through communication with a web server operating on internet protocol (abstract; column 2, lines 38-52).

Therefore it would have been obvious to a person skilled in the art at the time the invention was made to incorporate the teaching of , Chavez, Jr. et al into the teachings of Park and Hong Park in order to send an advertisement to a calling party instead of a normal ring back tones (abstract).

Consider **Claim 11**, Park as modified by Hong Park shows the method of claim 10, but fail to specifically show that said another sound is one already stored in the sound providing means or received via the web server.

However, in related art, Chavez, Jr. et al show that the another sound is received via the web server (abstract; column 2, lines 38-52).

Therefore it would have been obvious to a person skilled in the art at the time the invention was made to incorporate the teaching of , Chavez, Jr. et al into the teachings of Park and Hong Park in order to send an advertisement to a calling party instead of a normal ring back tones (abstract).



***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Faragalla whose telephone number is (571) 270-1107. The examiner can normally be reached on Mon-Fri 7:30 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael Faragalla

Patent Examiner

07/08/2007

  
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